UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,569	07/02/2003	Peter Traneus Anderson	129137NV (14291US01)	2431

23446 7590 11/21/2008

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER
HOLLOWAY III, EDWIN C

ART UNIT	PAPER NUMBER
2612	

MAIL DATE	DELIVERY MODE
11/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/612,569	ANDERSON, PETER TRANEUS	
	Examiner	Art Unit	
	Edwin C. Holloway, III	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6,13,21,28-37 and 42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 6, 13, 21, 28-37 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

EXAMINER'S RESPONSE

1. Applicant's submission filed on 8-20-08 has been entered. Claims 1,6, 13, 21, 28-37, 42 are pending. It is the examiner's position that the claims are unpatentable for the reasons set forth in this Office action:

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1, 6, 13, 21, 28-37 and 42 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1-6, 13 and 28-37 are directed to a transponder, but include significant functional limitations of the tracking system including "wherein a position and orientation of said transponder are determined based at least in part on said response signal" and "to calculate the position and orientation from said non-linear characteristics of said response signal," or similar language, but the written description as originally filed lacks enabling disclosure of a transponder that provides these detecting and calculating limitations. Claim 21 is directed to a method including "wherein a position and orientation of said transponder are determined based at least in part on said signal," but the written description as originally filed lacks enabling disclosure of a method of transmitting providing this limitation of detecting.

4. Claims 1, 6, 13, 21, 28-37 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claims 1,6, 13 and 28-37 are directed to a transponder, but include significant functional limitations of the tracking system of "wherein a position and orientation of said transponder are determined based at least in part on said response signal" and "to calculate the position and orientation from said non-linear characteristics of said response signal," or similar language that is improper because it is not clear how these limitations of detecting and calculating are provided by a transponder. Claim 21 is directed to a method including "wherein a position and orientation of said transponder are determined based at least in part on said signal" without reciting any actual method step directed to this determining function. Further, it is not clear how this limitation of detecting is provided by a method of transmitting. Claims 6 and 34 recite that the switch is controlled without sufficient structure to provide the claimed functional limitation.

Claim 42 lacks proper antecedent basis for "said rectifying device" in lines 1-2.

Claim Rejections - 35 USC § 102 & 103

5. Claims 21 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dumoulin'066 (US005443066A) in combination with Jones (US 4160971) or Arndt (US006097189A) and further in view of Kip (US 4196418).

Regarding claim 21, Dumoulin'066 discloses RF tracking system where an RF transmitter or transponder 200 placed in a patients body is tracked to determine position and orientation in relation to patient anatomy by determining a location that is superimposed on a medical image in col. 3 lines 55-67. This is provided by overlaying coordinate system (x, y, z, theta, phi) in incorporated applications 07/753563 07/753565 corresponding to US Patents 5377678 and 5211165. The transmitter 200 includes rectifying diodes 230 to rectify a received first signal

(activation signal) at a first radiofrequency and an oscillator to convert the rectified signal to a second radiofrequency different from the first radiofrequency. The second radiofrequency is received by coils 160 of the tracking system to determine position and orientation of RF transmitter 200. See col. 4 lines 19-53. This allows tracking of an invasive device with RF signals.

Jones discloses an analogous art transponder for medical applications with single diode 12 as a nonlinear device and one or more parallel resonant circuits to convert an interrogation frequency into one or more response frequencies that are used to identify the transponder. Capacitance is varied by use of a varactor diode and/or capacitor 11 varying with a measured quantity. See the abstract, col. 1 and col. 7 lines 25-44. Fig. 1 of Jones shows a transponder with diode 12 in parallel with resonant circuits 8,9 shown as series resonant circuits. But col. 4 lines 25-26 of Jones states that each of the resonant circuits may be series or parallel resonant circuits. Therefore the resonant circuits in the transponder may be parallel circuits corresponding to the capacitor 17 in parallel with coil 16 between terminals in the transmitter in fig. 1 of Jones. This would result in a diode in parallel with a capacitor in parallel with a coil.

Arndt discloses an analogous art transponder with nonlinear load such as a diode to provide harmonic response to avoid position tracking inaccuracies and false detection in col. 2. In other words, the transponder receives a signal at a first frequency that is converted or varied by a passive non linear load (diode) to provide a response signal at a second frequency. Position is determine relative to an X-Y-Z coordinate system in cols. 6 and 8. The transponder may includes resonant circuit including coil and capacitor in parallel with the diode to tune the frequency. Medical use is at least suggested by the transponder in hand in fig. 7.

Kip discloses a passive transponder with a switch in series with a non-linear element such as a diode or capacitor. The switch is a transistor controlled by a logic circuitry to be periodically switched in a coded manner to provide an Identification code in an easily detectable manner. First, second and third frequencies may be provided, so the response data is at a frequency or frequencies different from the interrogation. See fig. 5, col. 2 line 58 - col. 3 line 6 and col. 4 lines 31-60.

Regarding claim 21, Jones discloses varying reactance of capacitor 11 in accordance with a measured quantity (col. 2 lines 3-21, col. 4 lines 26-36) corresponding to a varying waveform characteristics of at least a second frequency (two transmit frequencies in col. 7 lines 25-44). Further Kip discloses transmitting data by periodically connecting a capacitor (col. 2 lines 58-64) corresponding to varying a waveform characteristic of at least a second frequency (two or three transmit frequencies in col. 4 lines 31-44).

Regarding claim 21, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Dumoulin'066 the diode circuit of Jones as a simple passive device to convert the activation frequency to a second frequency for tracking the transponder. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Jones the determining of position and orientation in relation to patient anatomy by determining a location that is superimposed on a medical image in Dumoulin'066 to interactively track the transponder through the subject without requiring other medical diagnostic images. Varying capacitance/frequency would have been obvious in view of Jones disclosing this to communicate a measured value. Transmitting first and second frequencies would have been obvious because the at least part of f1 would be

reflected by the resonant circuit of Jones. Regarding claims 42, Jones includes coil transmit/receive and rectifier diode. Diode in parallel with capacitor in parallel with (across terminals of) a coil or core would have been obvious in view of the diode in parallel with resonant circuits that may be parallel resonant circuits in Jones as discussed above.

Regarding claims 21, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Dumoulin'066 the diode circuit of Arndt as a simple passive device to convert the activation frequency to a second frequency for tracking the transponder. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Arndt the determining of position and orientation in relation to patient anatomy by determining a location that is superimposed on a medical image in Dumoulin'066 to interactively track the transponder through the subject without requiring other medical diagnostic images. Varying capacitance/frequency would have been obvious in view of Arndt disclosing this the diode varying such. Transmitting first and second frequencies would have been obvious because the at least part of f1 would be reflected by the resonant circuit of Arndt. Regarding claims 28-29 and 32, Arndt includes a switch 202 in parallel with coil. Regarding claim 42, Arndt includes coil transmit/receive and rectifier diode. Note that Arndt includes parallel resonant circuits providing a capacitor in parallel with the transmission coil.

Regarding claims 21 and 42, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above a controller controlling a switch in series with a diode or capacitor as disclosed in Kip so that the transponder transmits data that is easily detectable. First and second frequencies would have

been obvious in view of Kip to provide easily detectable encoded data for identifying the transponder. A transistor switch would have been obvious in view of Kip to provide easily detectable signals.

6. Claims 1, 6, 13, 28-29 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dumoulin'066 (US005443066A) in combination with Jones (US 4160971) or Arndt (US006097189A) and further in view of Kip (US 4196418) as applied above and further in view of Janning (US005241923A).

Regarding claims 1-3 and 35-37, fig. 1 of Jones shows a transponder with diode 12 in parallel with resonant circuits 8,9 shown as series resonant circuits. But col. 4 lines 25-26 of Jones states that each of the resonant circuits may be series or parallel resonant circuits. Therefore the resonant circuits in the transponder may be parallel circuits corresponding to the capacitor 17 in parallel with (between terminals of) coil 16 in the transmitter in fig. 1 of Jones. This would result in a diode in parallel with a capacitor in parallel with (between terminals of) a coil.

Regarding claim 13 Jones includes a diode 12 in parallel with capacitor and coil as discussed above and a core would have been obvious in view of the open center of Doumoulin'066.

Regarding claim 28, Jones discloses multiple parallel diodes and resonant circuits (switching devices) with variable resonant frequencies to provide multiple channel telemetry identified by a receiver (col. 7 lines 25-44) corresponding to altering non-linear and waveform characteristics of said response signal to distinguish from the excitation signal (up convert to

higher frequency in col. 2 lines 1-21) and transmits data (telemetry) by varying the reactance of the parallel resonant circuit(s) (capacitor, inductor) associated with the nonlinear device(s) with a measured quantity (col. 4 lines 26-34). Further, Kip includes detuning by switching parallel capacitor or non-linear element (col. 2 lines 58-64) corresponding to altering non-linear and waveform characteristics of said response signal to distinguish said response signal from said excitation signal (distinguished from spurious effects in col. 4 lines 57-60) and wherein said response signal transmits data based by switching capacitors and non-linear devices (col. 4 lines 31-44) corresponding to altering non-linear and waveform characteristics in said response signal. Regarding claims 28-29 and 32, Jones includes a switch 12 in parallel with coil 10 and diode in parallel with capacitor in parallel with (across terminals of) a coil or core would have been obvious in view of the diode in parallel with resonant circuits that may be parallel resonant circuits in Jones as discussed above.

Regarding claims 1-3 and 35-37, Arndt includes a diode 202 in parallel with a coil. Regarding claim 13, Arndt includes a diode 202 in parallel with coil and a core would have been obvious in view of the open center of Doumoulin'066. Regarding claims 8-10 and 39-40, Arndt includes coil transmit/receive and rectifier diode. Note that Arndt includes parallel resonant circuits providing a capacitor in parallel with the transmission coil in parallel with the diode.

Regarding claims 28-29 and 32, Arndt includes a switch 202 in parallel with coil. Arndt includes coil transmit/receive and rectifier diode. Note that Arndt includes parallel resonant circuits providing a capacitor in parallel with the transmission coil.

Janning discloses an analogous art transponder with a nonlinear device having terminals forming / connected to coils wrapped around / attached to a core. See figs. 15A-B and col. 17

lines 53-65. The nonlinear device is a rectifier (diode in col. 16 line 25).

Regarding claim 1, 6 and 13, Kip discloses a controller switching a resonant circuit including a nonlinear device to transmit data at that is insensitive to spurious effects. The data may be transmitted at a frequency or frequencies different from interrogation.

Regarding claim 1, the response signal of Jones is at a higher frequency than (not found in) the excitation (col. 2 lines 17-21) and transmits data based on varying (fluctuations) in the second frequency (response signal) (col. 2 lines 3-6). Also, the response signal of Dumoulin'066 is at a frequency not found in the excitation signal because the excitation signal is outside the bandwidth of the tracking system (col. 4 lines 19-53).

Regarding claim 13, a capacitor in parallel with transmit coil/antenna is disclosed in Dumoulin'066 (370, col. 5 line 2), Arndt (col. 10 lines 15-14), Kip (col. 2 lines 58-64). The capacitor in parallel with inductor in parallel with diode would have been obvious in view of Jones or Arndt for the reasons stated above. Jones varies capacitance with measured quantity (col. 2 lines 2-16) and Kip varies capacitor by periodically switching/adding to parallel capacitor C an additional fixed capacitor and/or non-linear element (variable capacitor) to transmit code signal CS (col. 2 lines 58-64, col. 4 lines 31-44) corresponding to capacitor varying voltage and current values in said response signal based on variations in the capacitance of said capacitor. The response signal of Jones is at a higher frequency than (not found in) the excitation (col. 2 lines 17-21) and the response signal of Dumoulin'066 is at a frequency not found in the excitation signal because the excitation signal is outside the bandwidth of the tracking system (col. 4 lines 19-53) corresponding to wherein said non-linear characteristics introduce at least one additional frequency in said response signal that is not found in said excitation signal. Jones

discloses multiple parallel diodes and resonant circuits (switching devices) with variable resonant frequencies to provide multiple channel telemetry identified by a receiver (col. 7 lines 25-44) and Kip includes detuning by switching parallel capacitor or non-linear element (col. 2 lines 58-64) to transmit data (identification code signal) to distinguished from other transmitters (col. 2 lines 47-57) and spurious effects (col. 4 lines 57-60) corresponding to capacitance introduces waveform characteristics allowing said transponder to be distinguished from other transponders. Jones varies capacitance with measured quantity (col. 2 lines 2-16) and Kip varies capacitor by using switch 25 to periodically switch/add to parallel capacitor C an additional fixed capacitor and/or non-linear element (diode acting as a variable capacitor) to transit code signal CS (col. 2 lines 58-64, col. 4 lines 31-44) corresponding wherein said response signal transmits data based on fluctuations in said response signal

Regarding claims 1, 6, 13, 28-29 and 32-37, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above coil/rectifier terminals attached a core as disclosed in Janning as an obvious alternative version of a transponder that may be useful for narrowband operation. Capacitor in parallel with coil in parallel with diode would have been obvious in view of the parallel resonant circuits of Jones or Arndt as discussed above. A switch in series with the diode or capacitor would have been obvious in view of the switch of Kip to provide variation in a coded manner for identification in analogous art that is virtually insensitive to spurious effects while the code can be detected in a reliable manner.

7. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Dumoulin'066 (US005443066A) in combination with Jones (US 4160971) or Arndt (US006097189A) and further in view of Kip (US 4196418) and Janning (US005241923A) as applied above and further in view of Murdoch '583 (US 5153583).

Murdoch '583 discloses a transponder with a synchronous rectifier in cols. 11 and 14 to provide simple and readily integrated rectification. A transistor for modulation switching in the integrated circuit is provided in fig. 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above the synchronous rectifier and/or the transistor of Murdoch '583 to allow integrated circuit rectification/switching.

Response to Arguments

8. Applicant's arguments filed 8-20-08 have been fully considered but they are not persuasive and/or moot in view of new grounds of rejection.

The argument that the claimed configuration is used by tracking electronics to determine position and orientation by known techniques is not persuasive because no particular tracking electronics or known techniques have been disclosed in applicant's specification.

Applicant argues that examiner has not identified one skilled in the art nor explained how and why such a person would not understand the claims or be able to make and use the invention. This argument is not persuasive because, as stated above, no particular tracking electronics or known techniques have been disclosed in applicant's specification. One of ordinarily skill, regardless of the identity of such hypothetical person, could not make or understand what is absent from applicant's disclosure. Applicant's written description lacks an enabling disclosure of the functions of the tracking system being included in a transponder or

method of transmitting.

Applicant argues that MPEP 2173.05(g) states that functional language does not, in an of itself, render the claim improper. It is noted that this section is directed to 35 USC 112 2nd par. (1st par. is a separate issue). The position of the examiners is that claims are not rejected based on functional language in and of itself, but are rejected because as best understood the determine / calculate functions are not provided by the transponder, making the limitations unclear. A transponder that determined / calculated position and orientation is not disclosed by applicant. The boundaries of the claims are indefinite because the claims and disclosure do not particularly point out any specific structure or technique to determine / calculate position and orientation.

Regarding the switch is controlled language, it is not clear what this adds to claims that is not inherent in a switch that provides switching. The examiner is unaware of a switch that is not controlled, but if applicant has evidence to the contrary it will be considered. If the intent is to add a connection to a controller, then it is not clear.

Applicant argues that the tracking system is an "intended use," but claims functions of the tracking system in the body of the claim that makes the scope of the claims unclear.

The argument that Jones shows a transponder with diode 12 in parallel with resonant circuit 8 shown as a series resonant circuit in fig. 1 is not persuasive because col. 4 lines 25-26 of Jones states that each of the resonant circuits may be series or parallel resonant circuits. Therefore the resonant circuits in the transponder may be parallel circuits corresponding to the capacitor 17 in parallel with coil 16 between terminals in the transmitter in fig. 1 of Jones. This would result in a diode in parallel with a capacitor in parallel with a coil. It is also noted that Arndt discloses that the target transponder may include a resonant trap that is a parallel resonant

circuit including an inductor and capacitor.

The examiner's response to the previous arguments regarding the prior art are repeated below:

Regarding claim 21, Applicant argues that the prior art rejections do not specifically mention the limitation of "varying a waveform characteristic of at least said second frequency using said capacitor to produce a variation in at least said second frequency." This argument is not persuasive because Jones discloses varying reactance of capacitor 11 in accordance with a measured quantity (col. 2 lines 3-21, col. 4 lines 26-36) corresponding to a varying waveform characteristics of at least a second frequency (two transmit frequencies in col. 7 lines 25-44). Further Kip discloses transmitting data by periodically connecting a capacitor (col. 2 lines 58-64) corresponding to varying a waveform characteristic of at least a second frequency (two or three transmit frequencies in col. 4 lines 31-44).

Regarding claim 28, Applicant argues that the prior art rejections do not specifically mention the limitation of "a switching device connected in parallel with said coil to alter non-linear and waveform characteristics of said response signal to distinguish said response signal from said excitation signal... wherein said response signal transmits data based on said non-linear and waveform characteristics altered in said response signal." This argument is not persuasive because Jones discloses multiple parallel diodes and resonant circuits (switching devices) with variable resonant frequencies to provide multiple channel telemetry identified by a receiver (col. 7 lines 25-44) corresponding to altering non-linear and waveform characteristics of said response signal to distinguish from the excitation signal (up convert to higher frequency in col. 2 lines 1-21) and transmits data (telemetry) by varying the reactance of the parallel resonant circuit(s)

(capacitor, inductor) associated with the nonlinear device(s) with a measured quantity (col. 4 lines 26-34). Further, Kip includes detuning by switching parallel capacitor or non-linear element (col. 2 lines 58-64) corresponding to altering non-linear and waveform characteristics of said response signal to distinguish said response signal from said excitation signal (distinguished from spurious effects in col. 4 lines 57-60) and wherein said response signal transmits data based by switching capacitors and non-linear devices (col. 4 lines 31-44) corresponding to altering non-linear and waveform characteristics in said response signal.

Regarding claim 1, Applicant argues that the prior art rejections do not specifically mention the limitations of "wherein said non-linear characteristics introduce at least one additional frequency in said response signal that is not found in said excitation signal, and wherein said response signal transmits data based on fluctuations in said response signal." This argument is not persuasive because the response signal of Jones is at a higher frequency than (not found in) the excitation (col. 2 lines 17-21) and transmits data based on varying (fluctuations) in the second frequency (response signal) (col. 2 lines 3-6). Also, the response signal of Dumoulin'066 is at a frequency not found in the excitation signal because the excitation signal is outside the bandwidth of the tracking system (col. 4 lines 19-53).

Regarding claim 13, Applicant argues that the prior art rejections do not specifically mention the limitations of "a capacitor connected in parallel across the two terminals to said coil, said capacitor varying voltage and current values in said response signal based on variations in the capacitance of said capacitor, wherein said non-linear characteristics introduce at least one additional frequency in said response signal that is not found in said excitation signal and said capacitance introduces waveform characteristics allowing said transponder to be distinguished

from other transponders, and wherein said response signal transmits data based on fluctuations in said response signal." This argument is not persuasive because a capacitor in parallel with transmit coil/antenna is disclosed in Dumoulin'066 (370, col. 5 line 2), Arndt (col. 10 lines 15-14), Kip (col. 2 lines 58-64). The capacitor (11) in Jones is in series with and inductor (10), but it would have been obvious to have provided this resonant circuit in parallel with coil/antenna terminals in view of capacitor(s) in parallel with the transmit coil/antenna in Kip and Arndt suggested by the plural parallel resonant circuits in Jones. Jones varies capacitance with measured quantity (col. 2 lines 2-16) and Kip varies capacitor by periodically switching/adding to parallel capacitor C an additional fixed capacitor and/or non-linear element (variable capacitor) to transmit code signal CS (col. 2 lines 58-64, col. 4 lines 31-44) corresponding to capacitor varying voltage and current values in said response signal based on variations in the capacitance of said capacitor. The response signal of Jones is at a higher frequency than (not found in) the excitation (col. 2 lines 17-21) and the response signal of Dumoulin'066 is at a frequency not found in the excitation signal because the excitation signal is outside the bandwidth of the tracking system (col. 4 lines 19-53) corresponding to wherein said non-linear characteristics introduce at least one additional frequency in said response signal that is not found in said excitation signal. Jones discloses multiple parallel diodes and resonant circuits (switching devices) with variable resonant frequencies to provide multiple channel telemetry identified by a receiver (col. 7 lines 25-44) and Kip includes detuning by switching parallel capacitor or non-linear element (col. 2 lines 58-64) to transmit data (identification code signal) to distinguished from other transmitters (col. 2 lines 47-57) and spurious effects (col. 4 lines 57-60) corresponding to capacitance introduces waveform characteristics allowing said transponder to

be distinguished from other transponders. Jones varies capacitance with measured quantity (col. 2 lines 2-16) and Kip varies capacitor by periodically switching/adding to parallel capacitor C an additional fixed capacitor and/or non-linear element (variable capacitor) to transit code signal CS (col. 2 lines 58-64, col. 4 lines 31-44) corresponding wherein said response signal transmits data based on fluctuations in said response signal.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin C. Holloway, III whose telephone number is (571) 272-3058. The examiner can normally be reached on M-F from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman, can be reached on (571) 272-3059.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/21/2008
(571) 272-3058

/Edwin C. Holloway, III/
Primary Examiner, Art Unit 2612